

What is Claimed Is:

1. A method in a signaling gateway in a network, the method including:

determining a congestion level for each of a plurality of application server process groups, each application server process group having at least one assigned application server process configured for providing services for a corresponding message signaling unit attribute, each application server process assigned to one of the application server process groups, the signaling gateway having a prescribed point code;

receiving an SS7 message having an originating point code specifying an originating node and a destination point code specifying the prescribed point code, the SS7 message carrying a message signaling unit having specified attributes;

identifying one of the application server process groups as a candidate group for processing the message signaling unit based on a determined match between the corresponding message signaling unit attribute and at least a corresponding portion of the specified attributes; and

selectively sending to the originating node a congestion notification message based on determining that an identified priority of the message signaling unit does not exceed the corresponding congestion level for the candidate group.

2. The method of claim 1, wherein the determining step includes determining the congestion levels for each application server process group based on a corresponding traffic configuration.

3. The method of claim 2, wherein the traffic configuration includes one of an override configuration, a loadshare configuration, a broadcast configuration, and a loadshare bindings configuration.

4. The method of claim 3, wherein the determining includes:

selectively setting the congestion level for a corresponding application server process group based on a highest determined congestion of an associated one of the application server processes, based on the corresponding application server process group having the override configuration;

5 selectively setting the congestion level for a corresponding application server process group  
based on a lowest determined congestion of an associated one of the application server processes,  
based on the corresponding application server process group having the loadshare configuration;  
selectively setting the congestion level for a corresponding application server process group  
based on a lowest determined congestion of an associated one of the application server processes,  
10 based on the corresponding application server process group having the broadcast configuration; and  
selectively setting the congestion level for a corresponding application server process group  
based on a highest determined congestion of an associated one of the application server processes,  
based on the corresponding application server process group having the override configuration;  
each application server process assigned to only one of the application server process groups.

5. The method of claim 1, wherein a first and second of the application server process groups  
are configured for providing Signalling Connection Control Part (SCCP) message service and ISDN  
User Part message service as the respective message signaling unit attributes.

6. The method of claim 1, further comprising:

receiving a second SS7 message having a second originating point code specifying a second  
originating node and the destination point code specifying the prescribed point code, and carrying  
a second message signaling unit having second specified attributes;

5 identifying another one of the application server process groups as a second candidate group  
based on determined match between the corresponding message signaling unit attribute and at least  
a corresponding portion of the second specified attributes, distinct from the portion of the specified  
attributes of the message signaling unit;

10 sending the second message signaling unit to an identified active one of the application server  
processes of the another one of the application server process groups, based on a determined priority  
of the second message signaling unit exceeding the congestion level of the second candidate group  
and independent of the congestion level of the candidate group.

7. The method of claim 1, further comprising selectively outputting to an identified one of the assigned application server processes of the candidate group the message signaling unit based on determining that the identified priority of the message signaling unit exceeds the corresponding congestion level for the candidate group.

8. The method of claim 7, wherein the selectively outputting includes identifying the identified one assigned application server process based on receiving an application server process active message from the identified one assigned application server process.

9. A signaling gateway in a network, the signaling gateway comprising:

means for determining a congestion level for each of a plurality of application server process groups, each application server process group having at least one assigned application server process configured for providing services for a corresponding message signaling unit attribute, each application server process assigned to one of the application server process groups, the signaling gateway having a prescribed point code;

means for receiving an SS7 message having an originating point code specifying an originating node and a destination point code specifying the prescribed point code, the SS7 message carrying a message signaling unit having specified attributes;

means for identifying one of the application server process groups as a candidate group for processing the message signaling unit based on a determined match between the corresponding message signaling unit attribute and at least a corresponding portion of the specified attributes; and

the determining means configured for selectively sending to the originating node a congestion notification message based on determining that an identified priority of the message signaling unit does not exceed the corresponding congestion level for the candidate group.

10. The gateway of claim 9, wherein the determining means is configured for determining the congestion levels for each application server process group based on a corresponding traffic configuration.

11. The gateway of claim 10, wherein the traffic configuration includes one of an override configuration, a loadshare configuration, a broadcast configuration, and a loadshare bindings configuration.

12. The gateway of claim 11, wherein the determining means is configured for:

selectively setting the congestion level for a corresponding application server process group based on a highest determined congestion of an associated one of the application server processes, based on the corresponding application server process group having the override configuration;

5 selectively setting the congestion level for a corresponding application server process group based on a lowest determined congestion of an associated one of the application server processes, based on the corresponding application server process group having the loadshare configuration;

10 selectively setting the congestion level for a corresponding application server process group based on a lowest determined congestion of an associated one of the application server processes, based on the corresponding application server process group having the broadcast configuration; and

selectively setting the congestion level for a corresponding application server process group based on a highest determined congestion of an associated one of the application server processes, based on the corresponding application server process group having the override configuration;

each application server process assigned to only one of the application server process groups.

13. The gateway of claim 9, wherein a first and second of the application server process groups are configured for providing Signalling Connection Control Part (SCCP) message service and ISDN User Part message service as the respective message signaling unit attributes.

14. The gateway of claim 9, wherein:

5 the receiving means is configured for receiving a second SS7 message having a second originating point code specifying a second originating node and the destination point code specifying the prescribed point code, and carrying a second message signaling unit having second specified attributes;

the identifying means configured for identifying another one of the application server process groups as a second candidate group based on determined match between the corresponding message signaling unit attribute and at least a corresponding portion of the second specified attributes, distinct from the portion of the specified attributes of the message signaling unit;

10 the determining means configured for sending the second message signaling unit to an identified active one of the application server processes of the another one of the application server process groups, based on a determined priority of the second message signaling unit exceeding the congestion level of the second candidate group and independent of the congestion level of the candidate group.

15. The gateway of claim 9, wherein the determining means is configured for outputting to an identified one of the assigned application server processes of the candidate group the message signaling unit based on determining that the identified priority of the message signaling unit exceeds the corresponding congestion level for the candidate group.

16. The gateway of claim 15, wherein the determining means is configured for identifying the identified one assigned application server process based on receiving an application server process active message from the identified one assigned application server process.

17. A computer readable medium having stored thereon sequences of instructions for controlling congestion in a network by a signaling gateway, the sequences of instructions including instructions for:

5 determining a congestion level for each of a plurality of application server process groups, each application server process group having at least one assigned application server process configured for providing services for a corresponding message signaling unit attribute, each application server process assigned to one of the application server process groups, the signaling gateway having a prescribed point code;

10 receiving an SS7 message having an originating point code specifying an originating node  
and a destination point code specifying the prescribed point code, the SS7 message carrying a  
message signaling unit having specified attributes;

identifying one of the application server process groups as a candidate group for processing  
the message signaling unit based on a determined match between the corresponding message  
signaling unit attribute and at least a corresponding portion of the specified attributes; and

15 selectively sending to the originating node a congestion notification message based on  
determining that an identified priority of the message signaling unit does not exceed the  
corresponding congestion level for the candidate group.

18. The medium of claim 17, wherein the determining step includes determining the  
congestion levels for each application server process group based on a corresponding traffic  
configuration.

19. The medium of claim 18, wherein the traffic configuration includes one of an override  
configuration, a loadshare configuration, a broadcast configuration, and a loadshare bindings  
configuration.

20. The medium of claim 19, wherein the determining includes:

selectively setting the congestion level for a corresponding application server process group  
based on a highest determined congestion of an associated one of the application server processes,  
based on the corresponding application server process group having the override configuration;

5 selectively setting the congestion level for a corresponding application server process group  
based on a lowest determined congestion of an associated one of the application server processes,  
based on the corresponding application server process group having the loadshare configuration;

selectively setting the congestion level for a corresponding application server process group  
based on a lowest determined congestion of an associated one of the application server processes,  
10 based on the corresponding application server process group having the broadcast configuration; and

selectively setting the congestion level for a corresponding application server process group based on a highest determined congestion of an associated one of the application server processes, based on the corresponding application server process group having the override configuration; each application server process assigned to only one of the application server process groups.

21. The medium of claim 17, wherein a first and second of the application server process groups are configured for providing Signalling Connection Control Part (SCCP) message service and ISDN User Part message service as the respective message signaling unit attributes.

22. The medium of claim 17, further comprising instructions for:

receiving a second SS7 message having a second originating point code specifying a second originating node and the destination point code specifying the prescribed point code, and carrying a second message signaling unit having second specified attributes;

5 identifying another one of the application server process groups as a second candidate group based on determined match between the corresponding message signaling unit attribute and at least a corresponding portion of the second specified attributes, distinct from the portion of the specified attributes of the message signaling unit;

10 sending the second message signaling unit to an identified active one of the application server processes of the another one of the application server process groups, based on a determined priority of the second message signaling unit exceeding the congestion level of the second candidate group and independent of the congestion level of the candidate group.

23. The medium of claim 17, further comprising instructions for selectively outputting to an identified one of the assigned application server processes of the candidate group the message signaling unit based on determining that the identified priority of the message signaling unit exceeds the corresponding congestion level for the candidate group.

24. The medium of claim 23, wherein the selectively outputting includes identifying the identified one assigned application server process based on receiving an application server process active message from the identified one assigned application server process..